



Contents

Björn Baran, Peter Benner, Jan Heiland, Jens Saak	
Optimal Control of a Stefan Problem Fully Coupled with Incompressible Navier-Stokes Equations and Mesh Movement	11
Ecaterina Bodnariuc	
A Spectral Approach to Peak Velocity Estimation of Pipe Flows from Noisy Image Sequences.....	41
Eduard Marius Crăciun, Adrian Răbâea, Marius Popa, Ileana C. Mihailov	
Crack Propagation in the Human Bone. Mode 1 of Fracture	59
Pierluigi Colli, Gianni Gilardi, Gabriela Marinoschi, Elisabetta Rocca	
Distributed Optimal Control Problems for Phase Field Systems with Singular Potential.....	71
Heike Faßbender and Julius Mayer	
A Revised Moment Error Expression for the AIRGA Algorithm ...	87
Aviv Gibali and Stefania Petra	
DC-Programming Versus L0-Superiorization for Discrete Tomography	105
Gheorghe Juncu	
The Influence of the Non-Linear Diffusion on the Mass Transfer of a Packaging Contaminant into Foodstuffs	135
Stelian Ion, Dorin Marinescu, Ștefan-Gicu Cruceanu	
Riemann Problem for Shallow Water Equation with Vegetation ...	145

Daniel Loghin	
Preconditioned Dirichlet-Dirichlet Methods for Optimal Control of Elliptic PDE.....	175
Gelu Paşa	
Some Models for Immiscible Displacements in Hele-Shaw Cells ...	193
P. Senel and M. Tezer-Sezgin	
Convective Flow of Blood in Square and Circular Cavities	209
Jeroen J. Stolwijk and Volker Mehrmann	
Error Analysis and Model Adaptivity for Flows in Gas Networks .	231
M. Tezer-Sezgin and Merve Gürbüz	
MHD Convection Flow in a Constricted Channel	267
Leonid Vasilyev and Florin Adrian Radu	
On the Ability of the Generalized Continuum Transport Model to Properly Capture Dispersion	285